

at Carlisle, Pennsylvania, by C. C. Hill, April 20, 1919, from the same host; and one male paratype reared by P. R. Myers, April 30, 1919, with the same locality and host. Antennae of type and allotype mounted on a slide.

Mr. McConnell states that the species is a primary parasite and that only a single individual is obtained from a host larva.

DISTRICT OF COLUMBIA DIPTERA: SCATOPSIDAE.

BY W. L. McATEE.

These small to minute black flies have long been placed in the Bibionidae, but seem better grouped as a separate family. They breed in decaying vegetable matter and in excrement; in the adult stage they are most easily found in flowers and on windows. The most useful American paper on the family is that of Dr. A. L. Melander (Bul. 130, Washington Agr. Exp. St., April, 1916). It is based on a European revision of the genera by G. Enderlein (Zool. Anz. Vol. 40, pp. 261-282, October, 1912). In the last named paper genera are founded on trifling differences in venation which may not prove wholly satisfying; in fact one of them is synonymized on a subsequent page. Other genera of Enderlein's are used but it must be admitted that in certain cases only a little variation would link them up. The only genus here treated that has a distinct habitus is *Aspistes*.

Key to the genera.

- A. Front tibia ending in a decurved sharp pointed process; thorax strongly elevated anteriorly, the declivity coarsely punctured; wing without apical cell, i. e., anterior branch of fourth vein interrupted basally. *Aspistes*.
- AA. Without the preceding combination of characters.
 - B. Anterior branch of fourth vein strongly angulate near base or emitting a crossvein which extends part way or entirely to third vein *Scatopse*.
 - BB. Anterior branch of fourth vein neither angulate nor emitting a crossvein.
 - C. Apical wing cell present.
 - D. Apical cell much shorter than its stalk *Swammerdamella*.
 - DD. Apical cell longer than its stalk.
 - E. Last vein of wing with a single curve; vein 3 remote from costa, section from radial crossvein to costal margin strongly curved into wing; radial crossvein near middle of second vein; subcostal cell usually larger than costal; halteres white; hind tibiae abruptly expanded distally *Reichertella*.

- EE. Last vein bent twice or thrice; vein 3 close to and nearly paralleling costa, in nearly a straight line from the radial crossvein to costal margin; radial crossvein nearer end of second vein; subcostal cell usually smaller than costal; halteres dark; hind tibiae not so expanded *Rhegmoclema*.
- CC. Apical cell lacking; i. e., anterior branch of fourth vein interrupted basally.
- F. Last vein simply curved; third vein curved remote from costa; radial crossvein at about middle of second vein; subcostal cell much larger than costal *Anapausis*.
- FF. Last vein bent twice; third vein straighter, nearer costa; radial crossvein between 4th and last fifths of second vein; subcostal cell much larger than costal *Aldrovandiella*.

SCATOPSE Geoffroy.

The genus *Holoplagia* Enderlein (Zool. Anz. Bd. 40, No. 10-11, Oct. 18, 1912, p. 267), for the separation of which from *Scatopse*, the chief character is that the crossvein between veins 3 and 4 is complete, would appear untenable since all degrees of completeness of the vein may be found in a single species *Scatopse notata*. A new species is here described that has no part of a crossvein (in the specimens thus far examined) but only a hump at a point in anterior branch of fourth vein corresponding to the origin of the stump or crossvein of species having one.

Key to the species.

- A. With a more or less complete crossvein between anterior branch of 4th vein and 3d vein; tibiae black usually with a brown annulus *notata*.
- AA. No crossvein, but anterior branch of 4th vein distinctly angulate at point corresponding to origin of crossvein in last species; tibiae and tarsi chiefly pale.
- B. Joints 3-6 of antennae pale; tibiae with only narrow rings of dark color *varicornis*.
- BB. Antennae wholly black; dark annuli on tibiae broader on each succeeding pair of legs posteriorly, the hind tibiae about half dark *tibialis* n. sp.

Scatopse notata Linnæus.

One of the most common species; has been taken in Virginia near Plimmers Id., Oct. 19, 1914, R. C. Shannon; Plimmers Id., Md., Oct. 26, 1906, A. K. Fisher; Maryland near Plimmers Id., April 28, 1914, on flowers of wild plum; Cabin John, Md., April 14, 1916, R. C. Shannon; Berwyn, Md., April 1, 1917, on flowers of *Salix caprea*, McAtee; Cleveland Park, D. C., April 14, 1918, H. L. Viereck; Washington, D. C., November 2, 1906,

McAtee, April 2, 6, 1895 (U. S. N. M.). McAtee took numerous specimens also, on Matinicus Id., Maine, Oct. 29, 1915, from brine in hogsheads of pickled fish.

Scatopse varicornis Coquillett.

Originally described from a specimen collected in the District of Columbia by T. Pergande; no other seen.

Scatopse tibialis, n. sp.

Third vein chiefly paralleling costa, joining it at a point more than two-thirds of the distance from root to apex of wing, second vein joining costa a little more than half-way from wing-root to end of third vein; radial crossvein between 4th and last fifths of second vein; anterior branch of fourth vein distinctly angulate at a point somewhat more than one-fourth its length from origin; last vein bent at almost right angles once, then again at a slightly greater angle. General color black; face with bristly black hairs, the head including antennae opaque, the latter (.46-.52 mm. long) however, with hairs which appear pale in reflected light; thorax shining, somewhat greenish black, with sparse short pale reddish hairs; scutellum opaque dead black; abdomen opaque with vestiture of short pale hairs which in reflected light make the surface appear seal-brown; legs normal in shape, femora black, distal joints more or less pale; femora with fine white pubescence which shows in reflected light, the basal half of each tibia glistening white, this followed by a darker (fuscous to black) annulus broader on each succeeding leg posteriorly, the apex of each tibia and tarsus yellow-brown. Length 1.84 mm.

Type, a female, Falls Church, Va., June 21, 1914, F. Knab. (U. S. N. M.) Paratype, same sex, Great Falls, Va., May 19, 1915, McAtee. A damaged specimen probably also of this species Plummers Id., Md., August 11, 1907, McAtee.

SWAMMERDAMELLA Enderlein.

- A. Apical cell very short triangular, about one-third the length of its stalk *brevicornis*.
 AA. Apical cell relatively longer, but much shorter than its stalk, its sides close together basally, but suddenly diverging apically..... *pygmaea*.

Swammerdamella brevicornis Meigen.

A minute species, varying from slightly less to slightly more than 1 mm. in length. Washington, D. C., June 6, 1912, on windows, McAtee; Plummers Id., Md., August 1, 1903, E. A. Schwarz, A. Busck.

Swammerdamella pygmaea Loew.

Originally described from District of Columbia material. The type was only .85 mm. long, but other specimens measure up to 1.5 mm. Maryland near Plummers Id., May 10, 1914, under bark of honey locust, R. C. Shannon.

REICHERTELLA Enderlein.

- A. Femora swollen; antennae shorter than head *femoralis*.
 AA. Femora slender; antennae as long as head *gracilis* n. sp.

Reichertella femoralis Meigen.

Virginia near Plummerville Id., Md., May 20, 1914, R. C. Shannon.

Reichertella gracilis, n. sp.

First section of costa : second :: 2 : 1; subcostal cell broad; apical cell much longer than its stalk. Body black, mostly shining; legs somewhat brownish; slender, hind tibiae expanded apically. Length 1.8 mm.; antenna .34 mm.

Type, a female, Washington, D. C., May 24, 1916, A. Busck (U. S. N. M.).

RHEGMOCLEMA Enderlein.

- A. Second vein joining costa at from one-half to two-thirds distance between wing-root and end of third vein.
 B. Length 1.3-2 mm., color normally deep black; last male tergite tapered into a long process which is not expanded apically. *atrata*.
 BB. Length 1.1-1.3 mm., color in part or wholly brown; last male tergite tapering into a long process which is spatulate apically. *barrus* n. sp.
 AA. Second vein extending farther distally; second section of costa only about one-fourth length of first.
 C. Apical cell about the same length as its stalk *floralis* n. sp.
 CC. Apical cell much longer than its stalk *willistoni* n. n.

Rhegmoclema atrata Say.

Fairly common; Virginia near Plummerville Id., Md., Nov. 2, to 15, bred from butternut (*Juglans cinerea*) hulls collected Oct. 10, 1914; Plummerville Id., Md., Aug. 8, 1914, bred from fungus; Md., near Plummerville Id., May 5, 1915, R. C. Shannon; Maywood, Va., April 21, May 26, 1916; Washington, D. C., June 4, 29, 1912, on windows, McAtee; May 21, 1915, H. S. Barber; June 7, 11, 1915, F. Knab; Woodridge, D. C., April 25, 1914, L. O. Jackson. Specimens are at hand also from Salmo, Wis., Aug. 11, 1919, McAtee.

Rhegmoclema barrus, n. sp.

First section of costa : second :: 5 : 3; apical cell more than three times as long as its stalk; last vein trisinate, only the median bend very strong. Head and body blackish (sometimes brown), pleura, and legs brownish. Last male tergite shining pale brownish, cream colored at base, tapered apically into a long process which is more or less expanded apically. Length 1.1-1.3 mm.; antennae about .25 mm.

Type, a male, Washington, D. C., January 15, 1915, R. C. Shannon. Several paratypes with same data. (U. S. N. M.)

Rhegmoclema floralis, n. sp.

First section of costa : second :: 13 : 3; apical cell almost exactly as long as its stalk; last vein bisinate. Black, thorax somewhat shining, abdomen rather

opaque; last tergite brown, polished, the deflexed terminal portion a very short but broad triangle; legs paler distally, the tarsi yellow-brown. Length 1.3-1.6 mm.; antennae .19-.23 mm.

Type, a male, Plummers Id., Md., from flowers of *Staphylea trifoliata*, April 28, 1915, McAtee. (U. S. N. M.)

Paratypes Great Falls, Va., May 21, 1917, McAtee; and with same data as type. On this occasion the flowers of the bladder-pod shrub from which they were collected were literally filled with these little flies, many pairs of which were in copula.

Rhegmoclema willistoni, n. n.

The species published by Williston (Trans. Ent. Soc. London, 1896, p. 269, Pl. VIII, fig. 26) as *Scatopse pygmaea* Loew (Cent. V, 13) is not that species (Melander, Bul. 130, Wash. Agr. Exp. Sts., 1916, p. 14) hence the name *Scatopse pygmaea* Williston was a homonym from the beginning. So far as the writer is aware Williston's species has not yet been named, and he is pleased to be able to name it for the late Dr. S. W. Williston, who had in the highest degree that most admirable quality in a systematist, the conscious purpose of aiding others in the study of his specialty. What a contrast is this policy to the monopolistic tendencies characterizing the work of some taxonomists, but in the long run how much more profitable to science and vastly more creditable to its exponent.

A single specimen, now unfortunately lost, which seemed to agree perfectly with Williston's description and figure was collected at Dead Run, Va., May 5, 1915, by R. C. Shannon.

ANAPAUSIS Enderlein.

Anapausis cismarina, n. sp.

First section of costa : second :: 2 : 1; subcostal cell broad, anterior branch of fourth vein interrupted basally; last vein only slightly curved. Color black, shining, with a brownish cast especially on legs, halteres yellow brown. Length 1.98 mm., antenna .33 mm. Male genital segment with two hairy stylets, transversely grooved (hence appearing segmented); preceding segment divided, the ends produced posteriorly into prominent teeth, one each side of median line; claspers with a strong tooth externally, which is sinuate on its concave antero-exterior margin.

Type, a female, Great Falls, Va., May 19, 1915, in flower of *Liriodendron tulipifera*, W. L. McAtee. (U. S. N. M.) Allotype, same locality and date.

ASPISTES Meigen.

Aspistes hartii Malloch.

Beltsville, Md., May 2, June 9, 1915, May 25, 1919, McAtee.